

Simulation-Based Teaching for Anaesthetic Emergencies: Enhancing Core Trainees' Competence in Managing Critical Situations

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This work presents the development and implementation of a simulation-based teaching course designed to enhance the competence of core trainees in anaesthesia in managing rare yet critical emergencies. Anaesthetic emergencies pose significant challenges to junior anaesthetists, requiring swift decision-making and effective management to ensure patient safety. However, opportunities for hands-on experience in managing such events are limited due to their infrequent occurrence in clinical practice.

The course structure integrates immersive simulation scenarios followed by a debriefing session. This provides trainees with a safe environment to encounter and practice managing anaesthetic emergencies, including but not limited to malignant hyperthermia, anaphylaxis, local anaesthetic toxicity and major haemorrhage. By simulating these high-stakes situations, trainees can develop and refine their clinical skills, leadership, teamwork and human factors¹. Course attendees are encouraged to make use of the Association of Anaesthetists of Great Britain and Ireland's (AAGBI) Quick Reference Handbook², which is available in each theatre and anaesthetic room in our institution. These experiences ultimately enhance the trainee's confidence and competence in managing critical events, as demonstrated in the course feedback.



Figure 1. Word cloud derived from feedback free text comments

In addition to the simulated scenarios, the learning experience is enhanced by incorporating a focussed debrief where feedback is delivered. It is well known that debriefing in this way encourages self-reflection and promotes deeper learning³. This point is reinforced by the fact that the words 'feedback' and 'debrief' occur with similar frequency as does 'challenging', 'high-fidelity' and 'relevant' in the above word-cloud based on the frequency of words occurring in free text feedback provided by attendees of the course (Figure 1). Evidently, learners place similar value on this element of the teaching as they do on the scenarios themselves. As such, the same amount of time is allocated for the scenario as is for the ensuing debrief.

Collated Feedback

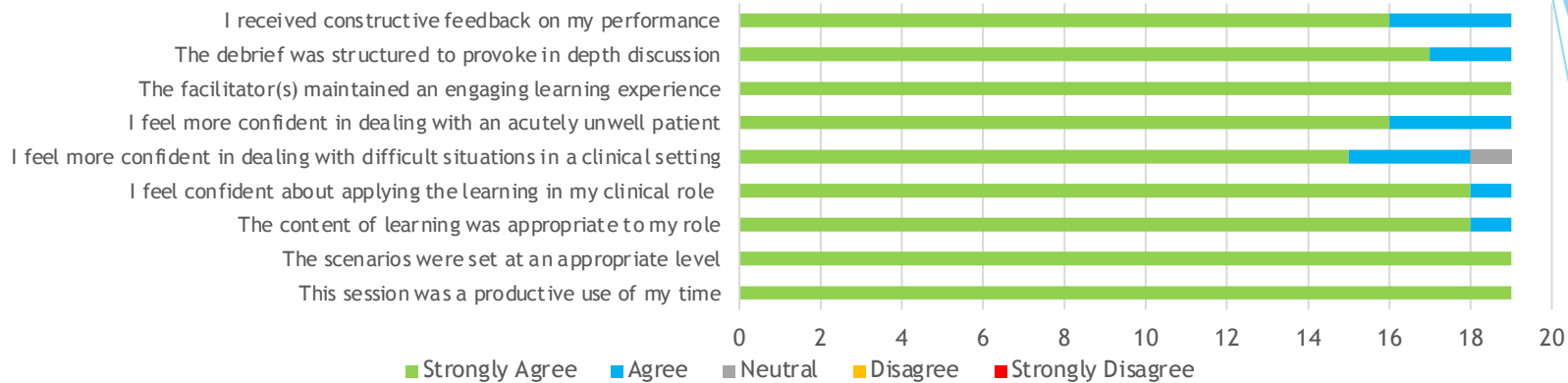


Figure 2. Graphical representation of feedback received

A summary of the collated feedback across multiple simulation sessions is shown in Figure 2. Trainees welcome the opportunity to practice rare and challenging scenarios. By utilising a high-fidelity environment, the aim is to bridge the gap between theoretical knowledge and real-world application. Exposing the trainees in this manner allows them to build confidence in dealing with clinical uncertainty, with the ultimate aim of improving patient outcomes by enhancing the overall quality and delivery of anaesthetic care. In line with this approach, a recent editorial concerning paediatric resuscitation advocated for regular and timely multidisciplinary simulations⁴.

To summarise:

- Trainees value challenging hands-on learning experiences in a controlled environment
- High-fidelity Simulation can bridge the gap between theoretical knowledge and practical application
- There is a growing advocacy for multidisciplinary simulation based training for rare high-stakes emergencies
- To consolidate learning, the process of debriefing is as important as the simulated scenario

References:

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